Cedar Waxwings

Figure 1. A pair of cedar waxwings (*Bombycilla cedrorum*) on a blueberry bush.

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Overview of Damage Prevention and Control Methods

Habitat Modification

- Remove trees or other convenient perching sites adjacent to fields

Exclusion

- Install nets over fruit trees and shrubs

Frightening Devices

- Several visual and auditory frightening devices are available

Repellents

- Products based on methyl anthranilate

Toxicants

- None registered

Trapping

- Mist-nets; require a permit

Shooting

- Requires a permit issued by the US Fish and Wildlife Service

Other Control Methods

- Falconry tried but was not successful

Species Profile

Identification

The cedar waxwing (*Bombycilla cedrorum,* Figure 1) is a distinctive bird, named after the red wax-like tips on their secondary flight feathers. It is one of three species in the family Bombycillidae. Currently no subspecies are recognized.

Physical Description

This bird is unmistakable; it is a small, sleek, crested bird with overall gray-brown plumage. Birds have a sharp black facemask edged in white, a black chin, yellow-tipped tail feathers, and red wax-like tips on secondary wing feathers (Figure 2).

Figure 2. Cedar waxwings are their named by the red wax-like tips on their secondary flight feathers.

Sexes are similar in size: total length is about 6 ¼ inches, wing length 35 ½ to 37 ½ inches, and tail length 19 ¾ to 21 ¼ inches. Body mass is 1 to 1 ¼ ounce, with females slightly heavier than males during the breeding season.

Range

Cedar waxwings winter in the southern US into Central America (Figure 3). It is a year-round resident throughout the northern half of the US into southern Canada. The breeding range extends north throughout central Canada.

Voice and Sounds

Cedar waxwings have no song, but produce 2 distinctive calls. The “Bzeee” call is a high-pitched trill with buzzy or rattling quality. The “Seee” call is a high-pitched, extended whistle of nearly unchanging frequency which often given in flight or by flock members just before taking off. Presence at a site often is first revealed by the characteristic “Seee” calls.

Figure 3. Range of the cedar waxwing.

General Biology

Reproduction

Cedar waxwings breed the first summer after fledging, and often raise 2 broods per season. Clutch size generally is 4 eggs. Fledging success is reportedly 72 to 89%.

Eggs are laid daily. The female incubates the clutch for about 12 days and broods the nestlings. Both parents feed the young, with the male doing most of the foraging. The young fledge after 16 to 18 days.

The cedar waxwing is one of the latest nesting species in North America. Their breeding season is May through September. Egg-laying occurs from early June through early August. Occasionally, active nests are found in early October. Breeding probably commences earlier

at lower latitudes and timing probably is associated with the availability of ripening fruit.

Nesting/Denning Cover

Cedar waxwings nest in a variety of trees and shrubs, often on the edge of wooded areas or in old-field habitats. Frequently, orchards and young pine plantations are used.

Mortality

Mortality is estimated to be constant, at 55% annually across all age classes. The maximum recorded life span is 7 years. Collisions with buildings and vehicles, pesticide poisoning, and predation are important causes of mortality.

Population Status

The Breeding Bird Survey (1966-2013) indicates long-term population stability throughout North America. Exceptions are Oregon and Manitoba, which exhibit annual downward trends of -2.4% and -4.0%, respectively.

Habitat

Waxwings nest in open woodland and old-field habitats with small trees and shrubs. During migration, they often follow riparian habitats or other areas with fruiting trees and shrubs. Winter habitat includes forest edges, parks, second growth forests, urban areas, and agricultural areas with fruiting trees and shrubs.

Behavior

Waxwings primarily eat fruit, but also catch insects by flitting out from exposed perches or gleaning them from vegetation.

Waxwings are active during the day, although some migration may occur at night. Waxwings are very social throughout the year. They occur in flocks, even during the breeding season. Territorial behavior seems limited to the area immediately around the nest.

Food Habits

Waxwings prefer fruits containing easily assimilated simple sugars, such as fructose and glucose. Typical fruits eaten include crabapples, hawthorns, cedar berries, cherries, blueberries, dogwood, and mistletoe. During the breeding season, waxwings often eat arthropods such as emerging mayflies and swarming ants. When fruit is scarce, flowers are a large part of their diet.

Waxwings feed in open forest and wood edges, crop fields (blueberry, strawberry, cherry), backyards, urban parks, and parking lots (landscape holly trees).

Legal Status

Cedar waxwings are fully protected by the international Migratory Bird Treaty Act. They cannot be taken without a depredation permit issued by the US Fish and Wildlife Service (USFWS).

Human-wildlife Conflicts

Crops

Cedar waxwings highly prefer fruit in their diet. As such, they are attracted to cultivated soft fruits such as blueberry, cherry, and strawberry (Figure 4). They travel in flocks and descend in large numbers on berry crops, especially during winter and migration. In short feeding bouts, waxwings eat, peck, or knock substantial amounts of fruit from the plants. They also sample berries, leaving them ruined on the plant.

Figure 4. Cedar waxwings often damage cultivated soft fruits such as blueberry, cherry, and strawberry.

Monetary value of damage by cedar waxwings is difficult to determine because they often are associated with other depredating birds. It is difficult to isolate the impacts of 1 species. A limited assessment of bird damage to early-ripening blueberries in Florida produced loss estimates of 17% to 75%, attributed mostly to cedar waxwings. A survey of blueberry growers in 1992 elicited 49 responses from 16 states and provinces. Overall, starlings, robins, and grackles were the species of most concern, but respondents in Florida, Georgia, Texas, and Washington listed the cedar waxwing as a species of major concern.

Damage Identification

Cedar waxwings are showy birds and typically are observed damaging fruit. Blueberries that are knocked off or still remaining attached to the bush sometimes have characteristic V-shaped marks left by the waxwing's beak (Figure 5).

Figure 5. Cedar waxwings often damage fruits without removing them.

Wildlife Damage Prevention and Control Methods

Prevention and control of damage by cedar waxwings to small fruits such as blueberry, cherry, and strawberry is vexing to growers in many parts of the US. These single-minded frugivores are difficult to discourage once they become habituated to a given location. Harassment early and often using pyrotechnics or other sudden noisemakers can help prevent flocks from being established. Visual and auditory deterrents have limited effectiveness as flocks rapidly acclimate. The most effective preventative measure is exclusion using an appropriate netting system. Chemical repellents based on methyl anthranilate as the active ingredient are readily available. Permits for lethal control can be difficult to obtain.

Integrated Wildlife Management

Early onset of crop protection strategies yields better results than delayed tactics. As birds become more used to feeding unchallenged, they become more difficult to prevent from using that site.

Cedar waxwing flocks react to harassment by people on ATVs using pyrotechnics or other loud noisemakers by lifting off, flying out of range, and settling down again. If driven out of

the field, they likely will perch in nearby trees, and then swoop into the field once more when the threat of harassment decreases. Permanent removal of birds from a blueberry or strawberry field requires persistent harassment throughout daylight hours. Physical harassment in combination with chemical repellent applications, visual frightening devices, and audio deterrents likely will be more effective than any of these components applied alone.

Figure 6. Nets must be properly installed and maintained to effectively exclude birds.

Habitat Modification

Options are limited. After a feeding bout, flocks of waxwings retreat to nearby high perches. Eliminating the perching, loafing, or resting areas for depredating flocks adjacent to crop fields might be possible in some cases, but the effectiveness of such measures is not known. Installing a kestrel (sparrowhawk, *Falco sparverius*) house was very successful for one New Hampshire grower. Cedar waxwings are easily urged elsewhere by kestrels.

Exclusion

The use of netting to exclude birds such as cedar waxwings is considered cumbersome and expensive by many growers, but is the most effective means to secure a crop from damage. Nets must be properly installed and maintained. Orchards, vineyards, and fields worldwide are netted for protection against bird depredations, and currently there are many options for netting materials and suspension systems.

Use of netting is not perfect, but for many situations, especially when the crop is of high value for the fresh market (Figure 6), there is no better alternative. Nets must completely cover the crop, as birds can be tenacious when attempting to feed.

You can install netting on cables above the crop using hog rings, which allow the nets to be pulled into position as the crop ripens, then slid back after harvest. If it is financially impossible to install netting over the entire planting, then it can be done piecemeal. Protecting a portion of the field, especially a highly susceptible area, is better than protecting nothing. Over a period of years, the entire area can be protected with nets.

Frightening Devices

Many commercial visual and auditory frightening devices are available, but effectiveness is inconsistent.

Response to specific devices depends on several factors, including availability of alternate food sources, the use of multiple devices and deployment at various locations to avoid acclimation, and timing of control (earlier is best). Acclimation is reduced if the device can be remotely activated. Examples include propane cannons and inflatable “scary man” products. Harassment with pyrotechnics will keep birds moving, but may violate noise ordinances and aggravate neighbors.

Repellents

Several commercial repellents are available for bird control in orchards or fields. These products include methyl anthranilate (MA) as the active ingredient. All birds are susceptible to MA, a contact irritant. Birds do not have to learn to avoid this compound, because it is irritating upon first encounter. It is probably most effective as a fog or aerosol application because of increased contact with the bird’s

eyes, mouth, and respiratory system. Repeated applications may be needed because MA is volatile and does not persist in the environment. Use all registered chemicals in accordance with label instructions.

Toxicants

None are registered.

Trapping

No effective traps are available for cedar waxwings. Waxwings can be captured with mist-nets, but it requires appropriate federal permits and does not seem to be a viable control method.

Shooting

Shooting and any other lethal control measure requires a depredation permit issued by the USFWS. The likelihood of obtaining such a permit varies by area. For example, the USFWS does not issue depredation permits for cedar waxwings isoutheastern US,. Other USFWS regions may have different policies. State and local limitations on shooting also must be observed, regardless of the location. Check with the USFWS, as well as state and local authorities to determine if shooting is allowed in your area.

Other Control Methods

The use of trained falcons to disperse waxwings that were causing damage was tried but was not successful.

Economics of Wildlife Damage Prevention and Control

Ideally, a benefit-cost analysis is performed as part of the damage management plan to help narrow the scope of management options and to align damage management needs with available resources. Depending on the amount of bird pressure and the value of the crop, sometimes the most cost-effective course of action may be to apply no bird damage control. On the other hand, for highly valuable crops with high levels of depredation, investment in relatively expensive control measures such as netting is financially justifiable. The benefit of affecting multiple depredating species at the same time may also be gained. Seldom are waxwings the only frugivorous species in a field or orchard. Control methods applicable for cedar waxwings likely will carry over to other problem species, such as American robins and European starlings.

Disposal

Some options are listed in the Disposal chapter of this book. Check your local and state regulations regarding carcass disposal.

Acknowledgments

Figures 1, 2, and 4. Photos by Michael L. Avery.

Figure 3. Image adapted from Witmer et al, 1997 by Stephen M. Vantassel.

Figures 5 and 6. Photos by Anthony G. Duffiney.

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Printed Resources

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Key Words

blueberry, *Bombycilla cedrorum,* cedar waxwing, cherry, damage to fruit, frugivore, netting

Glossary

Frugivore: An animal that eats fruit. It can be an herbivore or omnivore, but fruit is the preferred food.

Disclaimer

Implementation of wildlife damage management involves risks. Readers are advised to implement the safety information contained in the Manual of the National Wildlife Control Training Program.

Some control methods mentioned in this document may not be legal in your location. Always use repellents and toxicants in accordance with EPA-approved labels and your local regulations. Wildlife control operators must consult relevant authorities before instituting any wildlife control action.

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Editors

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